

FLORIDA HIGHWAYS



One of the Convict Camps Maintained by the Département. Camp No. 18, Ellenton, Manatee County

Vol. 1

NOVEMBER, 1924

No. 12

PUBLISHED BY THE STATE ROAD DEPARTMENT

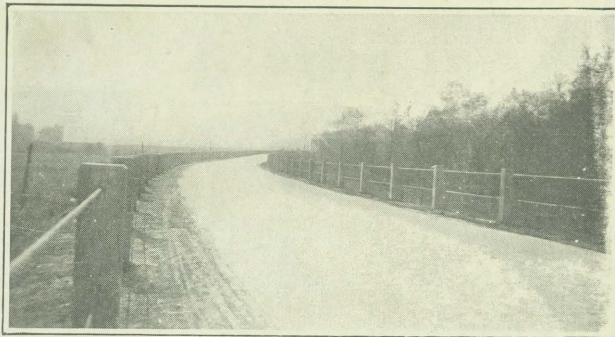
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BETTER



ROADS



Ala. F. A. P. 104 (Etowah County)—9.94 miles of Asphaltic Slag Concrete from Gadsden to St. Clair County line; begun Dec., 1921, and completed Oct., 1923.

More than 200,000 sq. yds. of Asphaltic Slag Concrete laid in this Alabama County

"ENSLEY" & "ALA CITY"
BASIC SLAG
 CRUSHED & SCREENED

The famous Rainbow Drive, shown above, is a familiar stretch on the Gadsden-to-Birmingham highway. Ninety-nine thousand square yards of two-inch Asphaltic Slag Concrete on a 6-inch rolled stone base.

The mixed Asphaltic Slag Concrete for this Federal Aid Project was furnished by Lasley Bros. (Gadsden), but the actual construction of both base and wearing surface were in the hands of county convicts under personal supervision of S. J. Cummings, County Highway Engineer.

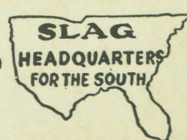


Wall St. (Alabama City)—17,836 sq. yds. of 2-inch Asphaltic Slag Concrete on 6-inch slag concrete base. Lasley Bros. have laid more than 100,000 sq. yds. of this type of paving in Attalla, Alabama City and Gadsden.

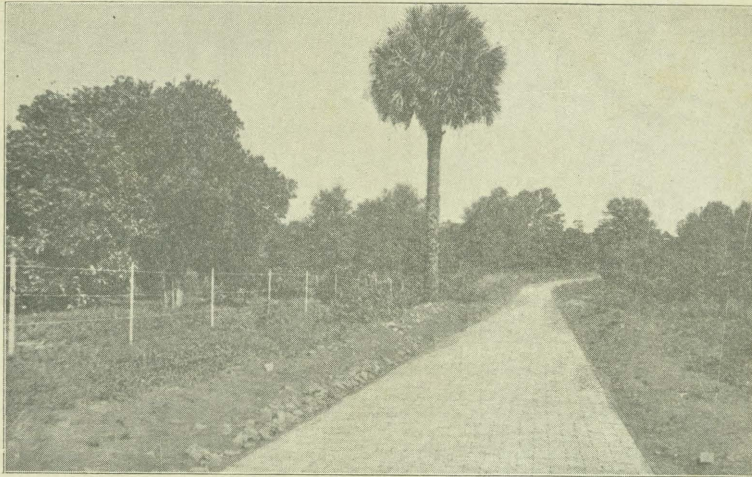
The completion of F. A. P. 104 (sections C and D) between Gadsden, Alabama City and Attalla marks the use of "Alabama City Basic Slag" in more than 200,000 sq. yds. of Asphaltic Concrete laid in Etowah County in the past two years by Lasley Bros. Much of this, see photo opposite, takes the form of street pavements in the three busy towns in this progressive county.

BIRMINGHAM SLAG CO.

ATLANTA · BIRMINGHAM · THOMASVILLE



FLORIDA HIGHWAYS



Vol. 1

NOVEMBER, 1924

No. 12

Highway Beautification

Address Delivered by J. L. Cresap, State Highway Engineer, Before Highway Beautification Convention at Tampa, October 9th.

When your Secretary requested me to be present and make a talk before the convention, I was very much afraid that I would not measure up to the standard as I have some idea of the plans of this organization and know something of the great work it is doing.

"The conservation of the natural growth along the highways" as well as "the marking of the highways" is the subject I was assigned to discuss.

I read in one of the recent issues of the publications which is the mouth piece of this organization, that it is a mere matter of personal opinion as to what is the most important item connected with the beautification of highways.

According to this statement, this subject has its place in the minds of the public as to its importance.

For some time I have been more or less instrumental in the construction of roads in Florida and have witnessed a most wonderful evolution of the so-called highway.

In viewing this subject, I look at it in a little broader sense than merely conserving the natural growth, but conceive of this subject as meaning the conserving as well as developing as far as possible all the natural beauty along our highways.

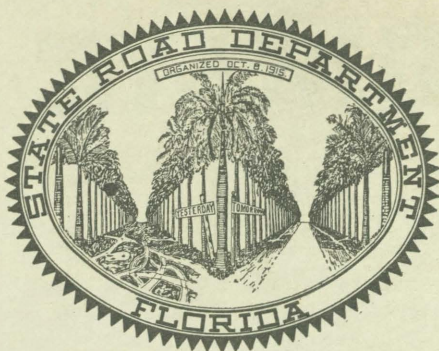
The Department which I represent, has been very severely criticised by many for maliciously destroying trees along the roads we have constructed and I have heard remarked more than once, that it takes the Creator fifty years to grow one of those many beautiful trees we find in our State, but it takes one of those fool engineers only thirty minutes to destroy it.

Let's look at this matter in a common sense way. Don't you believe the main idea in constructing a road, is to do everything possible to make this road the best that can be had for the money available, and to view the situation from a road standpoint first of all? Then in making the plans for this road, when you can do so without damaging the road or creating obstructions to traffic, every care should be taken to preserve the natural beauty and especially the natural growth adjacent thereto.

I know nothing that detracts more from the pleasing effect of a highway than to have ponds of water along side, or to have the drainage ditches cut irregularly and possibly holding muddy stagnant water.

It is a very difficult matter to construct a high-

(Continued on Page Four)



Florida Highways

Published Monthly

Official Publication of the State Road Department

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This magazine is edited in the offices of the State Road Department, Tallahassee, and published monthly. Subscription rate, one dollar per year. Permission is granted to republish, with proper credit, the matter contained herein.

Application has been made for transmission through the mails as second-class matter.

B. A. Meginniss, Attorney for the Department,
Editor and Business Manager

Volume 1

November, 1924

Number 12

Editorial

TWELVE MONTHS OF "HIGHWAYS"

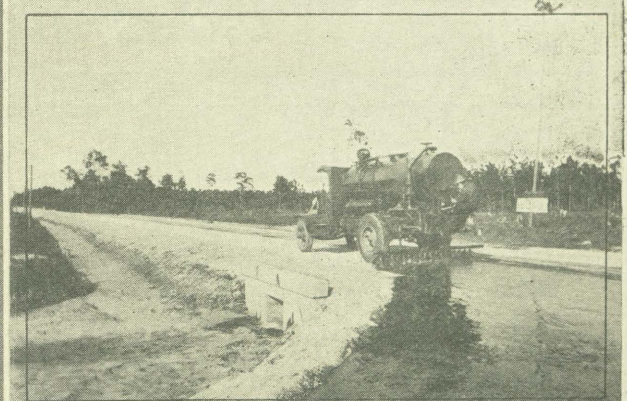
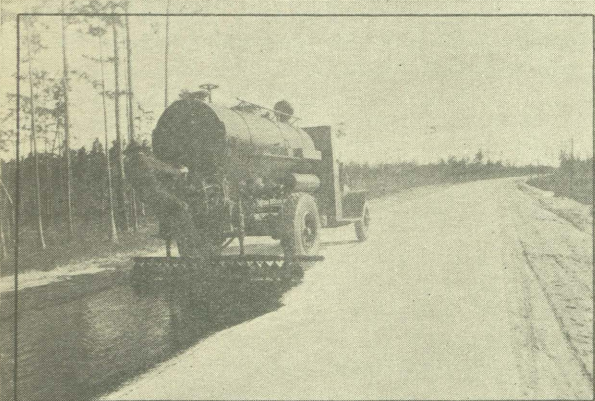
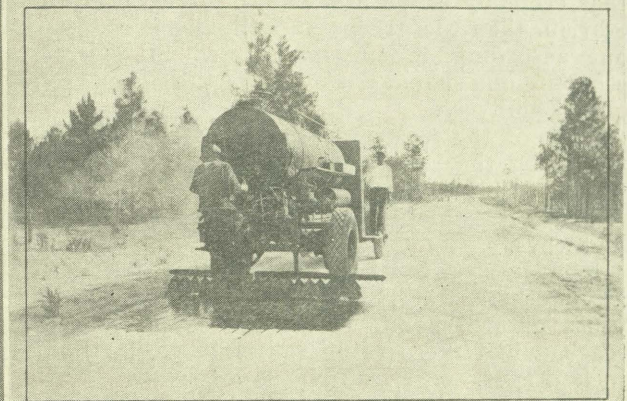
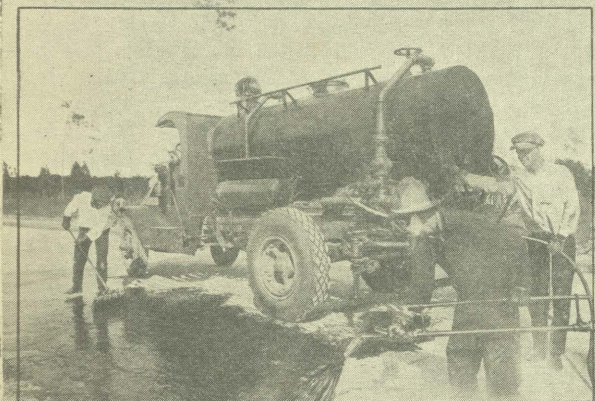
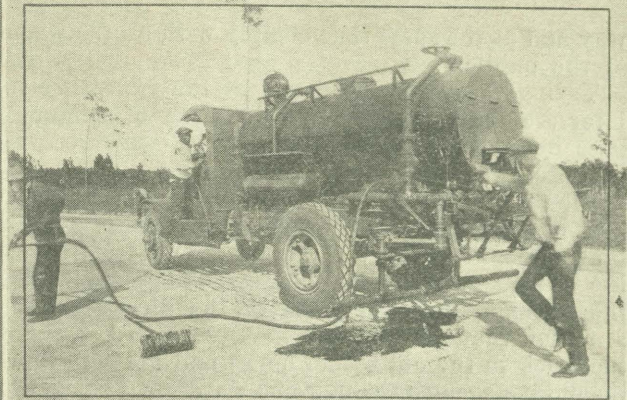
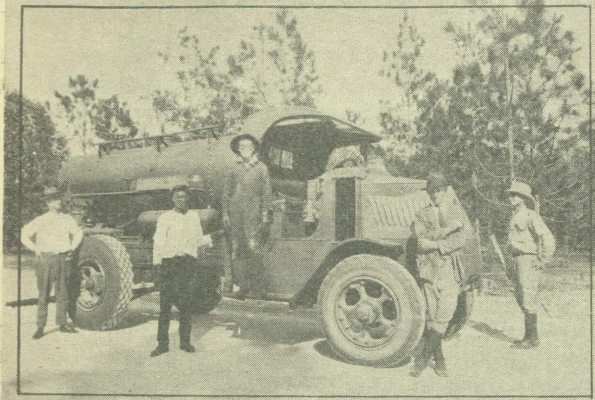
With this, the November issue, we round out a year of editorial effort. With no intention whatever of being boastful or "chesty," this magazine is one of those things "that couldn't be done—but we did it." No doubt was ever expressed as to the possibility of issuing and compiling a magazine, but there were many misgivings expressed as to our ability to accomplish that result without expense to the Department or the tax-payers. It is particularly gratifying, accordingly, to reiterate what we said in our initial number, namely, that Florida Highways has been and continues to be produced without one penny's expense to the Department or to the tax-payers either directly or indirectly.

This greatly-to-be-desired condition is due to the loyal support of our advertisers. The firms represented in our advertising pages are each and every one prominent and representative in their respective fields. It is a matter of supreme satisfaction to have the absolute knowledge that our readers may rely with confidence on every statement found in our advertisements. We take this method of expressing our thanks to these loyal friends, and the hope that they may continue to cooperate with us in the work we are trying to do.

In this connection, it may be well to remark that the fear expressed by some that our advertisers would use our columns in the hope that they might receive their return in influence on the Department, has not been justified. There has never been a single instance where an advertiser in his dealings with the Department has even remotely referred to the fact that he advertises with the magazine—and not the slightest transaction of the Department has ever been affected by that fact. The truth is, our advertisers are widely known, reputable, high-class concerns in every instance; we reach those interested in road construction which is the field of our advertisers, and the nature of their business is such that their goods, their services and their products sell themselves without any resort to undue influence.

As to the magazine itself. It falls, of course, far short of what we would have it. That is the common fate of human endeavor—but it is a matter of gratification to look back and realize that nothing has appeared in its pages of which we need be ashamed. We have endeavored to make its articles dispassionate and non-controversial—what has been set out has represented our views without prejudice to the unquestioned right of every man to disagree. We have tried to produce articles which would prove helpful not only to our own force, but to all those interested in the subject nearest our hearts—namely, adequate road construction and maintenance; and as we glance back over our files we find much that we believe to be of value, either as a permanent record of achievement or as suggestion of things dreamed but not yet realized.

We really do not mean to be boastful, or to pretend to be even satisfied with what is behind us—but there has been made a start from which we hope that we may rise constantly to higher and greater degrees of usefulness. Rejoice with us if you can!



Applying a surface treatment of asphalt on Road No. 13 in Bradford County,
Second Division. These photographs graphically show
the complete process.

HIGHWAY BEAUTIFICATION

(Continued from Page One)

way and at the same time comply with all the wishes of the public.

Trying to build a road and at the same time not interfere with the trees reminds me of a story I once heard of a Board of Directors, who were undertaking to build a new school house.

All the directors were in favor of the new building, but some of them were very economical, at the same time, however, did not want to interfere with the school which was in session. After much thought and discussion one of the directors made a motion that they build a new school house out of the brick in the old school house and not tear down the old house until the new one was built.

In making a location for a highway no one doubts that economy is the first item entering into consideration, then the grades and alignment are worked out according to this plan. But in considering economy one should not overlook the ultimate value of the highway.

Most of the natural beauty spots of Florida are not along the railroads, hence in order that these places may be capitalized and their full value be realized it is necessary that they be reached by highways.

Many a road has been built in this State as well as in others whereby with a little additional expense natural points of interest might have been reached had those in charge realized the value of such a spot.

You have never seen a railroad that passed by any special natural scenery that did not advertise it to the limit and make it part of the capitalization of the railway.

Our highways may be capitalized likewise and the public will become more familiar with the State and will be the greatest advertising medium that can be found.

In too many instances roads have been built on rights of way too narrow for the road itself and in very few instances have I seen a right of way of sufficient width to construct a highway in the broadest sense of the word.

The time is coming, yes it is here when the highways carry as much travel as the streets of our most flourishing towns did a few years ago and no one will argue that the streets were too wide even at that time.

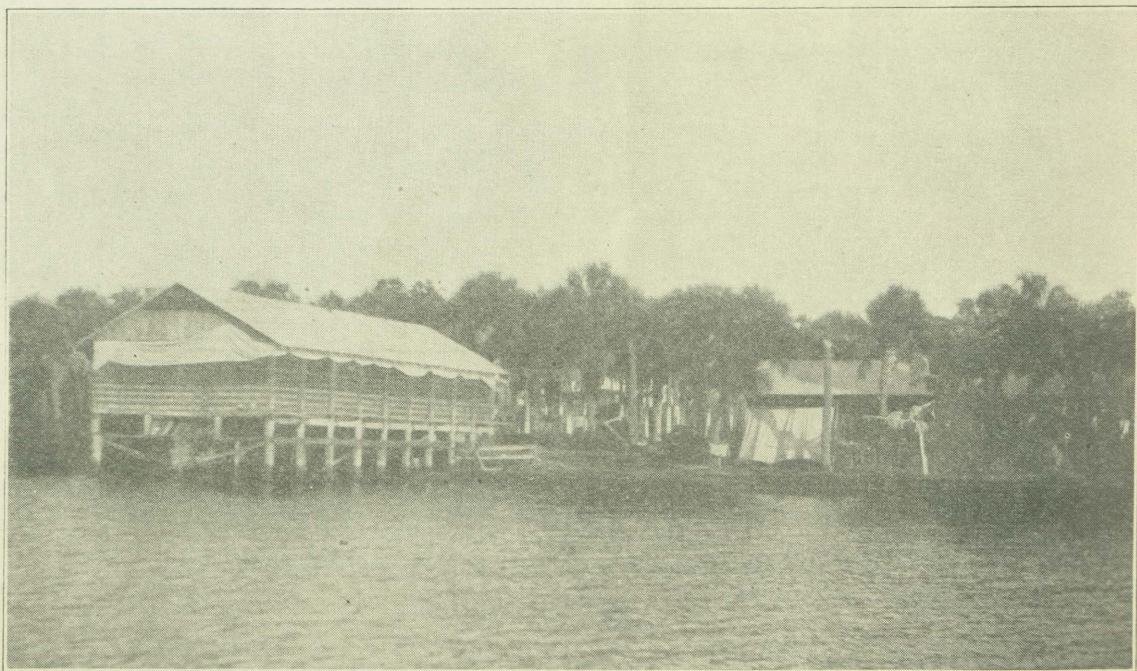
My idea of the ideal highway is one paved wide enough to accommodate the travel, then outside of this pavement should be constructed a berm or shoulder which should be sodded with grass, to be used as a safety in case a vehicle runs off the pavement.

Outside of this shoulder, should be left a space for ornamental trees, shrubs and flowers and back of this should lie the ditches with which to drain the road.

The rights of way should be wide enough so that a space can be left outside of the ditches on either side on which may be left the natural foliage which is always pleasing to the eye.

Care should be used in the selection of trees to be planted along the highways as well as those to be left of the natural growth and only such trees as will not damage the pavement, nor be a menace to travel should be planted or left.

I have had a very striking illustration of this last statement, within the last thirty days. I was over one of the highways of this State which had been improved by a county and along which the natural



A view of Convict Camp No. 18, in Manatee County. The structure in the foreground resembling a boathouse is in fact a stockade.

growth had been left without regard to good judgment.

I did not make any accurate count, but believe I can safely say that within a distance of ten miles there had been fifty trees, both large and small, blown down across this road. Travel was stopped for several days and even after travel was restored there were one or two serious accidents because the fallen trees had not been cut off far enough from the road-bed.

It has been my observation that in many places where rights of way have been cleared for a road, that the logs, brush and stumps have been left on the land adjacent to the road which usually lie there until decayed or until fire consumes them, at the same time marring the beauty of the growth adjacent to the road.

This is one item of conservation that should not be overlooked and in doing so will add more to the attractiveness of the landscape than the planting of many trees.

Most people seem to think that the beautification of the highways as well as the conservation of the natural growth should be done if necessary to the detriment of the highway and without regard to the safety of those who travel the same.

There should be no conflicting plans in this respect, the highway should be built for its value as a highway, then the beautification, whether natural or artificial, should be arranged accordingly.

I know of nothing that would add more to the value of this State than the conservation of the natural growth or the beautification of the highways so far as the traveling public is concerned, unless it is the construction of these roads themselves.

In order to make this manifest, it should be made a business and should take rank along with the construction and the maintenance departments.

It has been customary in the past as well as at the present to secure only enough right of way to accommodate the road and its drainage, but it should be just as important to secure a right of way for beautification.

The extra right of way in most places may be only an extra width, say, twenty, forty or sixty feet wider than the present rights of way, but at intervals not too far distant, a small acreage should be owned by the State wherein a small park or resting place may be located.

There are thousands of such nice spots existing along our highways at the present time that could be secured free of charge or for a small sum today, which no doubt in a short time could not be secured except at an enormous cost.

Land is cheaper in Florida today than it will ever be again and the time may come when possibly just such places as I mention, together with yards and parks, will be only evidence of what grows in Florida by nature's own choice.

Now let us consider briefly the second part of this subject, "The marking of the State Highways." You might judge from the amount of signboards that have been erected by the Department which I represent, that we are amateurs in the matter and that I have not had enough experience to qualify.

Well, this is true to a certain extent, but I have given this subject a great deal of study and thought.

Just recently the Department has begun the erection of route signs over the entire State System, comprising something over 3,500 miles of roads.

These signs are very simple yet plain enough for any one to understand, and by observing any map gotten out by the Department a traveler can always tell what road he is on, if it belongs to the System.

The proper way to mark a highway in my judgment, is to designate the route, say, at intervals of probably five miles each, then at intermediate places, say, at one, two or three miles apart to erect mile posts or sign posts.

It is always questionable just what should be put on a mile post, as every town along the line is important enough, according to its residents, to be placed on every mile post in the State and it is impossible to stage a scene that would give due credit to them all.

To my mind each road should have a route number and should start somewhere and end likewise. Should this route begin at a town, the distance from this town should be placed on every mile post on this route and if the route ends at or near a town, the distance to such town should also appear on every post.

There should possibly be four towns named on each post, and in such case the nearest town of any importance on either side of the post should be named and the respective distances to them shown.

All cross roads and forks of roads should be plainly marked and in such manner as to be plainly visible at night as well as by day.

Danger signals are a necessity and the only question regarding this type of sign is to erect one that can always be depended upon.

Some may think from the language I have used that the road itself has been stressed too much, but my idea is to build the road as a road in the best manner possible, but at the same time conserve all the natural beauty possible. Then use this road as a medium to display nature's wardrobe and such additions to the landscape as man and means can produce.

NUMBER FLORIDA GRADE CROSSINGS IS REDUCED BY AGREEMENT

An agreement entered into between the State Road Department of Florida and the trunk line railways of Florida during the month of August provides for the elimination of exceedingly dangerous grade crossing and also provides means to satisfactorily dispose of future crossings of highways and railroads.

The Atlantic Coast Line, the Seaboard Air Line, the Florida East Coast and the Louisville and Nashville roads were the railways which drafted the agreement and officials of the Highway Department state that they found the railways as anxious as themselves to solve the problem.

The agreement provides for a fifty-fifty erection and maintenance program by the railways and the State in eliminating old crossings and preventing new ones, and limits the amount of annual construction work of this character to a fixed per cent of the railways' gross earnings.

"It is the belief of the Department, formed after months of careful study," says Florida Highways, "that this agreement is the longest step forward

Principles and Practices in Common Carrier Motor Vehicle Regulation

By Henry R. Trumbower, Economist, U. S. Bureau of Public Roads, Washington, D. C.

In 1907, about the time when automobiles began to come into general use, the States were still debating whether public service corporations furnishing light, heat, power, water and telephone service and the traction lines should be placed under the regulation of the States by public utility commissions. By that time most of the States had established railroad commissions which regulated the rates and service of steam railroads and there was a general feeling that these other public utility enterprises should be similarly regulated both as to rates and service. Wisconsin and New York were the first States to extend this jurisdiction of the State and both enacted laws which gave these regulatory powers to railroad commissions which already existed.

When the automobile began to be used as a common carrier, either as a jitney competing with city street-car service or as a bus between cities or as a truck carrying persons and property for compensation, it was recognized that this was a new type of public service. Cities first began regulating these new transportation agencies and subsequently State legislatures began passing laws which extended their jurisdiction and regulatory power to the motor vehicle operated as a common carrier in like manner as to the rail transportation service. There has been considerable discussion as to the policy of extending a State's regulatory power to the motor vehicle. As yet there is no complete agreement on the subject and not all States have gone so far as to regulate common carrier motor vehicles to the same degree as steam and electric railroads.

Arguments in Favor of Regulation

The principal arguments in favor of State regulation of automobile carriers may be summarized as follows: That motor vehicles operating as common carriers should be regulated the same as other public transportation agencies and in that manner travelers and the shipping public would be assured regular, adequate, and efficient service including at the same time the highest degree of safety and responsibility; that where motor vehicle common carriers are apt to bring about competitive conditions which are ruinous to other carriers, the State can determine what is to the best interest of the public in the long run and protect that agency which it is shown deserves protection and whose service is needed by the public; that there should be placed upon the common carrier motor vehicle those duties and obligations which are commensurate with the benefits obtained from the public for gain and profit; that public regulation is desirable in order to protect from irresponsible competitors those motor vehicle common carriers which have established themselves and are furnishing satisfactory service.

Is Regulation Necessary in Absence of Monopoly?

The attitude of those opposing this type of legislation finds its expression in the message of the governor accompanying the veto of a motor-vehicle regulation measure passed by the Wisconsin legislature. He said: "My objection to this bill is fundamental. Jitneys and buses may be operated by anyone upon the public highways and streets, and therefore there is no opportunity to create a monopoly. Free competition prevails, and thus rates and service are regulated by the natural law of competition. It is quite different with respect to a street railway, an interurban railway, or a railroad. When either of those occupies a territory, there is no opportunity for a competitive, like system to come into that territory. There is a limitation on the number of street railways or interurban lines that may occupy the field of transportation, and so the transportation companies hold the field against all others; and the reason for regulating them is because of the fact that they possess a monopoly, affording them the right, in the absence of regulation, to arbitrarily discriminate, grant rebates and other special favors, charge an excessive fare, and give inadequate service. The legislature, therefore, wisely provided for the regulation of such monopolies. The motor vehicles have come to stay; they are the beginning of a transportation system about which it is dangerous to prophesy. They may in the future be displaced by more modern systems of transportation. The old canal companies fought for their existence when the railroads came, but the building of railroads could not be obstructed merely for the purpose of preserving the canal companies. * * * I do not believe that it is any part of the State's duty to obstruct or hinder that means of conveyance. So long as the motor vehicles do not possess a monopoly, there is no ground for regulating them, except to protect the safety and health of the traveling public. To regulate them from the standpoint of protecting some other business, is to interfere with free competition, not in the interests of the general public, but for the special protection of some specific business."

There is a certain amount of truth in the statement that public regulation is not necessary where monopoly conditions do not prevail. Regulation on the part of the Federal government and the State governments was undertaken for the purpose of protecting the public against unreasonable rates and discriminatory practices which grew up under monopoly conditions. It seems, therefore, logical that when and if competitive conditions are restored regulation can be given up. In this connection it should, however, be observed that the motor vehicle as a common carrier makes its appearance as a competitor in the entire field of transportation, including

steam railroads and electric city and interurban railroads. To keep on regulating one form of transportation as to rates and service and allow the new type of competitor free rein without placing upon him any degree of restraint or responsibility is an unfair practice and will lead sooner or later to conditions which will be intolerable from the public point of view. The public is entitled to adequate and continuous service at reasonable rates; unlimited competition on the part of the motor vehicle with the common carrier which is regulated by the public will in the long run seriously affect the service and may force that type of carrier to curtail or abandon its service which is most essential to public needs.

Motor Vehicle Common Carriers Regulated in 28 States

At the end of 1923 there were 28 States* which adopted the definite policy of regulating motor vehicles engaged in common carrier service and through the State public service commissions were exercising control over the routes, service, and fares. Many of the cities exercise control over so-called jitney operation even though the State has not enacted any legislation pertaining to motor vehicle common carrier service on the public highways. There are also certain States which have not gone so far as to put automobiles carrying passengers and freight for hire into the public utility class which at the same time require such operators to carry liability insurance and give bonds. As yet the Federal government has not taken any steps to regulate automobile carriers although there are a great many who engage in interstate business. Where railroad companies have made arrangements to forward freight shipments by rail and motor truck the Interstate Commerce Commission has taken the position that the commission's jurisdiction does not extend to that part of the service carried on by motor truck over the highways.

The right of the State to regulate the activities of motor vehicles engaged in common carrier operation is well established; this is true whether the State does it directly through a regulating commission or through a city council which derives its powers from a charter granted by the State. The regulation and control of the jitney has been held by the courts to be a legitimate exercise of the police power. *Memphis v. State ex rel Ryals*, 133 Tenn. 83; *Ex parte Dickey*, 76 W. Va. 576; *Auto Transit Co. v. Fort Worth (Texas)*, 182 S. W. 685; *Thielke v. Albee*, 79 Ore. 58; *Huston v. Des Moines*, 176 Iowa, 455; *Green v. San Antonio (Texas)*, 178 S. W. 6; *Smith v. Nunnelly (W. Va.)* P. U. R., 1915E 177. Under the police power of a State the legislature may prescribe the number, charter, routes, rates and hours of service of common carrier vehicles on highways; this power can be delegated to a city council or to a public service commission.

In framing laws of this character it is necessary in the first place to name and describe definitely the type of motor vehicle and the nature of the service which is to be regulated and supervised by the State. The State of Washington has adopted a very comprehensive definition covering this matter; its jurisdiction extends over all "auto transportation companies" and these are defined as "every corporation

or person, * * * owning, controlling, operating, or managing any motor propelled vehicle not usually operated on or over rails used in the business of transporting persons, or property for compensation over any public highway in this State between fixed termini or over a regular route, and not operated exclusively within the incorporated limits of any city or town; Provided, that the term auto transportation company, as used in this act, shall not include corporations or persons * * * in so far as they own, control, operate or manage taxicabs, hotel buses, school buses, motor propelled vehicles, operated exclusively in transporting agricultural, horticultural, or dairy or other form of products from the point of production to the market."§

One of the frequent questions which commissions and courts have to decide is whether or not a specific motor vehicle is operated in such a manner so as to bring it within the State's regulatory powers. Statutory definitions which are clear and comprehensive are of great assistance to those who are responsible for the administration of the law. That the State has the power to regulate common carriers is no longer open to argument, but a commission can regulate only those common carriers which have been definitely named and included by definition in the statute conferring jurisdiction to the regulatory agency.

An example of this came up in California. The California commission held that a motor bus line, auto truck line, or auto stage line engaged in transportation for hire was not a public utility under the California act although it might be a common carrier. *Western Assoc. v. Hackett (Calif.)* P. U. R., 1915F. 997. The position taken by the commission was reversed by the State supreme court when the case came before it on appeal; the court held that such motor vehicle lines were "transportation companies" and subject to the control of the commission because the constitution from which the commission received its authority gave the commission the power to regulate railroads and "other transportation companies." *Western Assoc. v. Railroad Commission*, 173 Calif. 802. In following the rules of construction the court must have concluded that motor vehicle common carriers resembled "railroads" closely enough so as to come within the category of "other transportation companies." In a great number of States which have had public utility acts and where power was given to commissions to regulate railroads, both steam and electric, the laws have been amended by adding motor vehicles engaged in common carrier service and by putting them in the same class as railroads. The Colorado Public Utilities act defines the term "common carrier" in saying: "The term 'common carrier' when used in this act includes every railroad, corporation * * * and every other corporation or person affording a means of transportation by automobile or other vehicle whatever, similar to that ordinarily afforded by railroads or street railways and in competition therewith."†

The statute of Maryland, which was one of the first States to regulate the motor vehicle as a common carrier, provided that the term "common carrier" includes all persons * * * operating automobiles and motor cars or motor vehicles for public use, in the conveyance of persons or property.‡ The com-

pleteness of the jurisdiction which the States have because of statutory enactments depends wholly upon the specific provisions of the law in each case. In most States the powers granted to the commissions are far reaching in character; in some States the jurisdiction applies to passenger motor vehicles alone; in New Jersey the commission has jurisdiction over and can regulate only those auto buses which operate over routes parallel to a street railway line or traction railway.** The Ohio law limits the commission to a supervision of the rates and service and safety of operation of common carrier motor vehicles; the control of competition with other transportation agencies is not delegated to the commission.^x

Certificates of Public Convenience and Necessity

Wherever State commissions exercise complete control and supervision of common carrier motor vehicle transportation it is necessary that any one desiring to engage in this kind of service obtain from the commission a permit which certifies that the holder has the right to give service of a certain character between two definite terminals. This permit or certificate is not issued unless it is shown that public convenience and necessity require this new service or operation and consequently the certificates are generally called "certificates of public convenience and necessity." This procedure is taken directly from the railroad and public-utility laws and is the basis of the monopoly feature of such enactments. The New York Public Service Commission in one of its decisions has made a very good attempt at defining this term. "Taking the phrase as an entity," the commission says, "it does not mean to require a physical necessity or an indispensable thing. We take it that for such purposes as are involved in this and similar applications, a public convenience and necessity exists when the proposed facility will meet a reasonable want of the public and supply a need, if existing facilities, while in a sense sufficient, do not adequately supply their need."² In most States where laws have been passed requiring that no motor vehicles operate as common carriers until they have secured public convenience and necessity certificates it is provided that those operating at the time the law becomes effective are considered as being within their rights. The certificates may be good only for the year issued or they may be granted for an indefinite period; if granted for a year they are ordinarily renewed at the end of the year without any further formalities.

A good deal of the litigation before commissions and courts involving the regulation of the operations of motor vehicles as common carriers pertains to contests over the granting of a certificate of public convenience and necessity. Practically all of these cases grow out of applications to operate motor bus lines. The cases can be grouped into two classes; first, where an applicant seeks the right to operate in a field which is already occupied; second, where there are several applicants seeking the right to operate in an unoccupied area. The competition which would be set up in this first group of cases is with street railways in cities or in suburban sections, with steam railroads, and with other common carrier motor vehicles.

Street Railways Entitled to Protection Against Loss of Short-Haul Fares

The revenue feature is usually the one which receives the most consideration in determining whether or not a permit should be granted to operate a motor bus in direct competition with urban and interurban electric railroads. On account of the fact that a uniform flat rate of fare is being generally charged on street railway lines and that passengers are carried long distances as well as short distances for the same fare, the street railway finds its revenues seriously depleted if its short-haul passengers are taken away from it by a motor bus and the rate of fare for the other passengers may have to be increased, or at least make it impossible to reduce fares. For this reason public utility commissions in their decisions in such cases have taken the stand that street railways were entitled to protection up to a certain point. The loss in earnings of a street railway brought about through the competition of motor bus operation would result in preventing the street railway from securing the needed capital for extensions and betterments and the public would finally suffer. The check upon unwise competition in the opinion of the New York commission is abundantly justified from the point of view of public advantage. *Petition of Gray (N. Y. 2d Dist.) P. U. R. 1916A. 33.* That same commission holds that motor buses should be confined to streets and neighborhoods which are not served by street railroads except in cases where existing street railroads refuse to or cannot supply the service requirements. *Petition of Gray (N. Y. 2d Dist.) P. U. R. 1916A. 33.*

In most cases it has been held that under the conditions existing in the larger cities motor-bus service cannot be substituted wholly for street-car service because it would inadequately meet the public needs. At the time when the Oregon commission was considering an application for an increase in street railway fares in the City of Portland a suggestion was made that motor-bus transportation could be introduced and thus do away with street railway operations. After making a comprehensive study of the practicability and economy of motor-bus transportation the commission concluded that in these grounds it would not be justifiable to make a substitution. "Even on the more profitable lines of traffic," the commission said, "it appears that the cost would equal, if not exceed, that of the street railway, and because of the narrowness of Portland's streets the congestion of traffic which would be occasioned thereby would make it impracticable if not prohibitive." *Re Portland Railway, Light Power Co. (Oreg.).*

According to the New York commission there is justification in the competition between a line of motor buses and a street railway line "where it appears that there is such a divergence of routes and so much greater convenience afforded by the stage route that it may fairly be said that it supplies a want of the public not already adequately met." *Re Troy Auto Car Co. (N. Y. 2d Dist. P. U. R.) 1917 A, 700.* Just what distance there must be between the route of the motor-bus and street-car line so that there will not be an direct competition is a matter which must be determined in each individual case.

The Dixie Highway in Broward County

Twenty-Six Miles Asphalt Through County.

Broward County, Florida, is celebrating this year a decade of county history and progress. Originally a part of Dade County from St. Lucie south, its sturdy pioneer residents have lived in three counties, although under the same roof. By "secession" Broward became a part of Palm Beach County and later by legislative enactment, March, 1914—just ten years ago—the present county was created, taking its name from the illustrious governor, whose vision of the great future of the fertile Everglade empire led him to take the first official steps looking toward its drainage and reclamation. Four-fifths of Broward County lies in the Everglades now drained by New River and the North and South Canals. In addition 300 miles of other canals and lateral ditches have been added, rapidly placing the muck lands in shape for farming. Vast changes and great developments have occurred in the past decade beyond the fondest expectation of the most ardent booster.

The Dixie Highway rather closely parallels twenty-six miles of Broward's splendid ocean beach, with velvet-like short laterals here and there leading down to the sea. Upon the creation of the new county, one of the first steps taken by its forward-looking county commissioners was the planting of Australian pine and eucalyptus trees on both sides of the Dixie Highway from the north boundary of the county above Deerfield to the Dade County line, three-quarters of a mile below Hallandale. The Dixie Highway has ever been a source of pride to the people here; it has

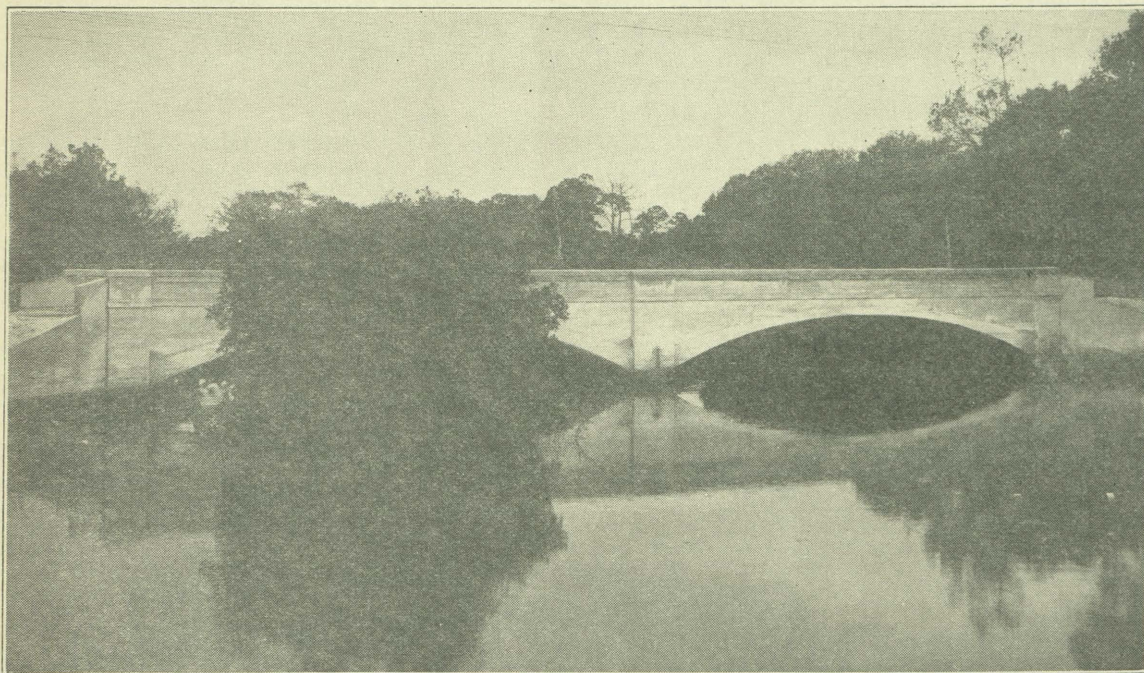
been kept in the best of condition. The thousands of motorists en route to Fort Lauderdale, Miami, and other points south, find in Broward County a wide asphalt road, smooth as a floor.

During the past eighteen months Broward County has built fifty-eight miles of oiled roads and boulevards, nine miles of hard-surfaced roads and six large concrete bridges, as well as three steel bridges. Two of the finest of the concrete bridges built appear on the Dixie Highway, one spanning the South Fork, Middle River, and the other the Dania Cut-off Canal in the edge of Dania.

There are many points of interest along the Dixie Highway in Broward County from the very northern limits, where one of the five big drainage canals of the county crosses the highway at Deerfield, to Hallandale, where the motorist bids au revoir to Broward County. In winter every depot platform, every siding, every packing house is loaded with thousands of crates of cabbage, beans, potatoes, tomatoes, peas, eggplant, peppers and other vegetables, this being one of the heaviest shipping points of vegetables in the United States during the winter and early spring months.

In Fort Lauderdale, a few blocks to the west of the Dixie Highway, is the village of the proud Seminole Indian, with its thatched huts breathing a hint of the romance of yesterday. A splendid oil road leads west to Davie, the oldest settlement in the Everglades,

(Continued on Page Eleven)



One of Broward County's Beautiful Highway Bridges.

PRINCIPLES AND PRACTICES IN COMMON CARRIER MOTOR VEHICLE REGULATION

(Continued from Page Eight)

It has been held that an auto-bus line operating over a route which was 2,500 feet from the nearest street railway did not improperly interfere with it and under those conditions a certificate was granted. *Re Woodlawn Improv. Transportation Corp.* (N. Y. 2d Dist. P. U. R. 1916D 1).

Competition of Motor and Railroad

When the operation of common carrier motor vehicles comes into competition with paralleling steam railroads practically the same policy is followed as in the case of competition with street railways. Where the service of the steam railroad is inadequate and unsatisfactory permits are granted. *Re King* (Calif.) P. U. R. 1919F 377. Not many cases of this kind have arisen because the service of the motor-bus lines is in most instances purely local in character.

Commissions have uniformly held that where motor-bus lines are operating and giving satisfactory service they should be protected from competition of other operators. *Re Automobile Stage Line* (Ariz.) P. U. R. 1918B 292. If it appears, however, that there is enough business to warrant the establishment of a second line and the line already operating does not properly serve the public, certificates of public convenience and necessity are issued to applicants authorizing competitive service.

Where there is an unoccupied field and there are several applicants seeking permits to operate and it appears that the prospective business warrants only one line of motor buses, the commission has to take into account the relative ability of the applicants to furnish the required service. *Re King* (Calif.) P. U. R. 1917F 377; *Re Chicago Motor Bus Co.* (Ill.) P. U. R. 1918C 320. Such considerations as the financial responsibility of the applicants, the type of equipment, the proposed rates and schedules are all matters which are given due weight.

Through regulations and promulgation of rules the State commissions supervise the operations of motor buses; speed limits are established, provisions are made for all kinds of safety measures, rules of conduct and the hours on duty of drivers are definitely prescribed, the capacity loads are fixed, and all manner of precautions are taken for the benefit of the traveling public.

The Rate Question

In none of the formal proceedings have any definite principles been established as to the maximum rate of return which should be allowed to this new class of common carriers and public-utility enterprises. The business is new, and very little authentic information has been collected which would indicate what the return should be. The capital requirements are not so large as in other kinds of public utility undertakings. At the same time the business has been conducted in many instances by individuals who keep few accounts and who, at the best, have but a limited conception of the intricacies of cost accounting. Rate cases as such have not found their way to the dockets of public utility boards and

commissions. Because of the lack of rate controversies, the valuation of the property of these carriers has not been necessary.

The regulatory laws of the various States provide that annual reports shall be filed in accordance with the requirements prescribed by the commissions. These reports at present contain fairly accurate data as to revenue; when it comes to a classification of operating expenses there is an evident weakness. The item of depreciation usually receives very little attention; there is also noted a confusion in the minds of many of the small operators between wages and salaries on the one hand and return on the other. In those States where street railway companies have, either directly or indirectly, gone into the business of operating motor buses to supplement their rail service, reports and financial statements are filed which are properly made out by the accountants and clerks familiar with public utility cost accounting systems.

According to the information obtained from a number of State commissions which regulate the operations of all common carrier motor vehicles there is a tendency for the individual operators to be taken over by corporations organized for this purpose; consolidation of small operators is also noted. Large companies are appearing which control the routes in a given section of a State. The motor-bus business may pass through the same consolidation movement which took place in the early days of the street railway business.

*Arizona, California, Colorado, Connecticut, Georgia, Illinois, Iowa, Maine, Maryland, Michigan, Montana, Nevada, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont, Virginia, Washington, West Virginia, Wyoming.

§Chapter III, sec. 1, Laws of Washington, 1921.

†Chap. 127, sec. 2-E, Laws of Colorado, 1915.

‡Chap. 180, sec. 1. 5, Laws of Maryland, enacted 1910, amended by Chap. 445, Laws of 1914.

**Chap. 149, sec. 15, Laws of New Jersey, 1921.

xAct July 26, 1913.

zRe: *Troy Auto Car Co.* (N. Y. 2d Dist.), P. U. R. 1917A, 700.

Dixie Highway Association Meeting at Rome

Rome, Ga., October 4—(Special.)—The fall meeting of the Dixie Highway Association will be held in Rome November 14-15 and a record attendance is expected. Two factors will make the gathering an important one—that chapters recently organized will be represented, and that 74 Rotary clubs on the route will take part for the first time. Since the Savannah meeting last May much interest and co-operation in behalf of the highway have been developed among the Rotary clubs and their influence along the length of the route is potent. Also the organization of Dixie Highway chapters, fifteen in the last two months, has awakened local interest in all those towns, and it is planned to continue and enlarge this work.

A subject of importance to come before the November meeting is that of securing two national parks on the Dixie Highway—one at Mammoth Cave, the other in the eastern Appalachians. Judge M. M. Allison, president, and other officers and executives from headquarters at Chattanooga will attend.

THE DIXIE HIGHWAY IN BREVARD COUNTY

(Continued from Page Nine)

with its comfortable homes, good schools, ever-productive truck farms and, last but not least, citrus groves recently startling the citrus world with the wonderful fruit produced on the muck lands without fertilizer or cultivation. Penetrating the heart of the business district of Fort Lauderdale, the Dixie Highway crosses beautiful New River, the deepest river for its length in America. It is filled with craft, elegant yachts of all kinds and freighters laden with fruits and vegetables from the Everglade farms along the upper glade canals. Not only does it afford a means of water transportation to the sea and to the upper Everglades, but New River is the delight of anglers from all parts of America; here the mighty tarpon is found at his best, a few miles upstream fresh water trout fishing is good, or, turning the boat in the opposite direction, a few minutes' ride to the ocean inlet and there is deep sea fishing and action a-plenty.

Appreciating the magnetic attraction of this abbreviated stream, the original trail makers of the Dixie followed down its south bank lines, with majestic cocoanut palms, as far as possible.

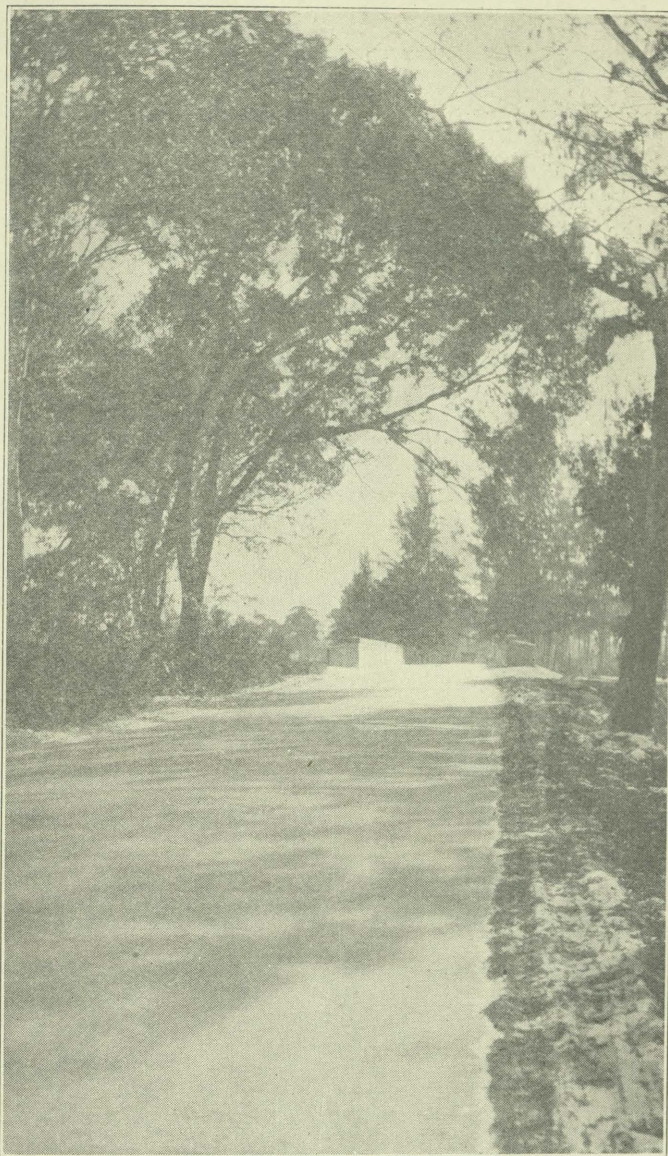
Below Hallandale the Dixie crosses into Dade County. Years ago the American Fruit Company and the progressive citizens of Hallandale's hustling agricultural community planted hundreds of Australian pines, eucalyptae, oleanders, hibiscus and many other varieties of trees, shrubs and flowering plants along the highway through the town, affording roadside variety.

Nature has indeed been kind to Broward County. The county commissioners of early days in the planting of Australian pines, eucalyptus and other varieties of trees and flowers contributed much to the cause of beautification, to say nothing of the stately royal and cocoanut palms planted by individuals, but there is much yet to be done. For this reason the Beautification Commission has recently been organized by the Chamber of Commerce. It is composed of representatives of all city and county organizations, to further the beautification of the Dixie Highway. The county commissioners have ordered all signs off the right of way. The chairman of the sign removal section of the committee is doing everything possible to remove all signs, both leased and non-leased. Plans are being formulated for additional roadside beautification; protection of the lofty Australian pines from fire; replacing those which have been destroyed, and planting additional trees and shrubs to link up all gaps.

It is the ambition of the Broward Commission to make this the most attractive twenty-six-mile vista along the Dixie Highway; many sections especially endowed by nature can scarcely be seen by the visitor for the signs; many a stately pine and live oak is disfigured by a score of faded cloth, wood and tin signs. Why permit the Dixie, the most scenic of National Highways, to remain permanently disfigured, when the combined sentiment of the counties along its route can prevent?

The Chamber of Commerce of Fort Lauderdale, which has organized the work of the commission, has adopted the slogan of the Beautification Commission

—"Swat the Signs and Save the Scenery." The local organization will have the assistance and moral backing of the Florida Development Board and the State Commission.—The Dixie Highway.



Along the Dixie Highway (Road 4) in Broward.

Carelessness is responsible for more motor accidents on highways than any other thing.—The Highway Engineer and Contractor.

One trouble with automobile speeders seems to be that their horse sense decreases in inverse ratio to their horsepower.—Nashville Southern Lumberman.

NUMBER FLORIDA GRADE CROSSINGS

(Continued from Page Five.)

which has been taken by the department as a single proposition since its creation. The terms of the agreement are eminently just and evince, as nothing else could, the earnest desire of the parties to take care of the situation and obviate the traffic menace always an incident of railway grade crossings."—The Dixie Highway.



Vote on \$625,000 Bonds—Special District to Be Created

West Palm Beach, Fla.—Ratifying a petition for the creation of a special district and providing for a bond issue of \$625,000 to bridge Lake Worth inlet, extend the ocean boulevard northward to Jupiter and further develop a road system and construct bridges in the territory immediately north of West Palm Beach, the County Commissioners have ordered an election to be held early in November.

Bridging the inlet and extending the ocean boulevard are the main items of the project; this would increase the county's length of the ocean driveway by more than 15 miles. A bridge from the mainland to the ocean by way of Munyan's Island, and a road from the Dixie Highway through Prosperity Farms, are also included in the project.—Manufacturers Record.

To Vote on \$750,000 Bonds for Causeway

Tampa, Fla.—The date of October 28 has been fixed by the Board of Commissioners of Hillsborough county for the election on the creation of De Soto Park special road and bridge district and on a proposed bond issue of \$750,000 to build a causeway across a portion of Hillsborough Bay. Plans for the project provide a causeway one mile long, extending

from the foot of 22d street, near De Soto Park, across a portion of the bay; building a boulevard on the De Soto Park side, and a highway from the south end of the causeway to connect with the Tampa-Bradentown road at River View, a distance of five miles.

Of the proposed bond issue \$265,000 will be used for the causeway and the remainder for highway construction and drainage. The boulevard will be 4800 feet long, 32 feet wide, and the highway 24 feet wide. Vitrified brick and asphalt filler, asphalt block or bituminous concrete three inches thick have been designated as materials for construction of highways. All types to be laid on a four-inch lime-rock base, with four-by-twelve-inch concrete curbing. Judge O. K. Reaves will handle legal details of the project and it is probable that J. A. Mortland will be selected as engineer.—Manufacturers Record.

\$276,000 Contract in Sarasota County

Sarasota, Fla.—Contracts for the construction of 33 miles of roads in Sarasota county have been awarded by the Board of Commissioners to the Finlay Method Co. of Jacksonville, Fla., at \$276,413. Six projects are involved and it is stated that the contractor will begin work at once with three construction crews. Work on the Bradentown road and the Venice-Englewood road will be the first started.



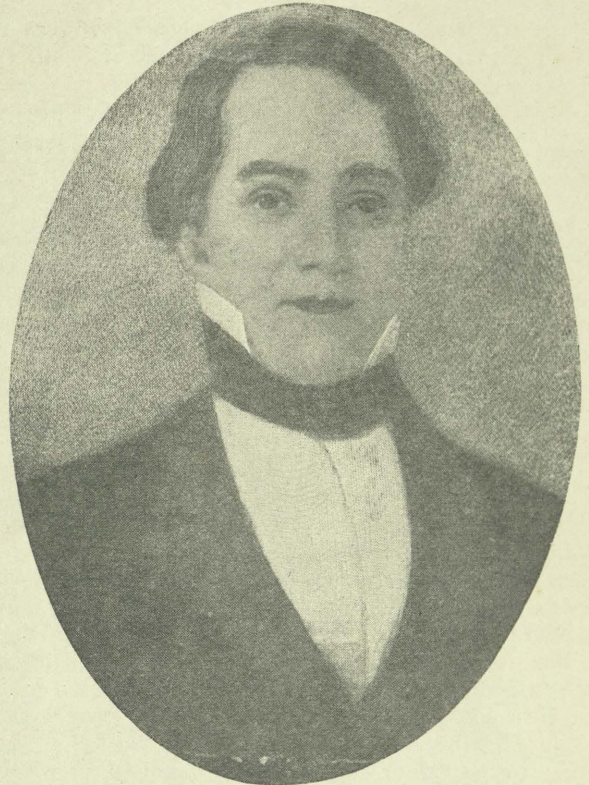
Still another view of Convict Camp No. 18—Manatee County.

THE CENTENNIAL CELEBRATION

(PREPARED BY FRANK WEBB)

The Florida Centennial celebration in Tallahassee November 9-15 is to commemorate the history of the State for the hundred years from the establishment of the Legislative Council in 1824 to the present. Although Florida, as a place in the new continent, had been known for three centuries prior to 1824, there seems to have been no definite effort toward organized government until this date. Discovered in 1513 by Ponce de Leon, there was no attempt to settle in the territory until 1559, when the Spanish laid claim to it. For practically one hundred and fifty years, until 1718, the Spanish controlled certain settlements, while the Indians for the most part controlled the unsettled portions. In 1718 France laid claim to what was then known as Florida and held dominion for only about five years when Spain claimed it again in 1723. For forty years until 1763 the Spanish flag predominated. Great Britain came into possession of the Floridas in 1763 and until 1781 the British flag was recognized. Spain again obtained possession of the territory in 1781 and controlled until the United States took possession in 1818. Old Glory only floated over the territory for about one year, when Spain again in 1819 obtained control. The Spanish had it until the purchase by the United States in 1821. Old Glory then predominated until the Southern Confederate flag was raised in 1861. The United States flag was again raised in 1865 and from that date Florida has been in the domain of the United States. She was a territory, governed by territorial governors, until 1845, when she was admitted as one of the United States.

Following the purchase from Spain in 1821 the territory was known as West Florida and East Florida. St. Augustine was the seat of government for



Prince Murat

East Florida and Pensacola for West Florida. The Legislative Councils met first in one capital and then the other.

In 1823 Dr. William H. Simmons, of St. Augustine, and John Lee Williams, of Pensacola, were appointed to select a central point for the seat of government. Tallahassee was selected and a log capitol erected. The Legislative Council convened in this capitol November 8, 1824. This is the occasion for the Centennial celebration.

Governor William P. Duval, an eminent lawyer of Kentucky, who had been designated by the United States government, delivered his message to this assembled council. The council organized by electing Joseph M. Hernandez, of St. Augustine, president. Other members of the council were William R. Reynolds, Peter Mitchell, Abraham Bellamy, John L. Doggett, James Bright, Thomas Russ, Jonathan Robinson, Richard Compton, John de LaRue, Joseph Noriega and Benjamin D. Wright.

In 1824, the year in which Tallahassee was selected as the seat of government for all Florida, General LaFayette visited America. Congress granted him \$100,000 cash and a township of land anywhere he desired to select it, for the services he had rendered in the Revolutionary war. LaFayette selected this land near the new capitol which had been erected in Tallahassee. LaFayette was never able to carry out his plans for a French colony, though a number of his countrymen came to Florida because of his interest. Among these were Prince Achille Murat, son of the King of Naples and of Caroline Bonaparte. During his stay in Tallahassee (1826) the prince was married to Katherine Dangerfield Grey, daughter of Colonel Byrd Willis, of Virginia. Miss Willis was the grandniece of George Washington.



Princess Murat

Financing Highway Construction

An Exclusive Interview with THOMAS H. MacDONALD,
Chief of the Bureau of Public Roads, U. S. Department of Agriculture.

By SPENCER HUFFMAN,
Washington Correspondent for The Highway Magazine.

Tremendous programs of highway construction have been carried on in recent years, and even more elaborate work is planned for the near future. The cost runs into enormous amounts. How far should these programs go? How should the money be raised, and how expended?

In the past there has been much discussion of the proper methods to employ in financing road building projects, to-wit, the "pay-as-you-go" policy, or the "ride-as-you-pay" plan, the latter meaning bond issues for such construction work.

It might be well to call attention to the fact that there are only three sources of highway revenue. Whatever money is needed for construction or maintenance must come from them. They are the road user, real or personal property, and income. And there are but two methods of expending the money derived from these sources, the "pay-as-you-go" plan, or the deferred payment plan, which means bonds. All sources of revenue may properly be drawn upon, and both methods of payment have their proper uses.

There has been particular criticism directed against bonds to pay for improvements, and in many instances it has been the tendency on the part of the uninformed and unthinking to condemn expenditures for such purposes because they are, in and of themselves, large in amount.

One case in point is that the State of New York, which has come in for severe criticism by a great many people because it issued several years ago \$100,000,000 in bonds. In this connection it is my opinion that the highways purchased with that borrowed money are now worth twice \$100,000,000 in actual replacement value. In addition to the value of the highways, it must also be taken into consideration that the people of New York have had the use of these roads for several years.

Many of the roads constructed with the original capital are now being rebuilt, and it is true that the bonds issued have not yet been retired; but that does not mean that the people of the State will continue from now on to pay for an improvement that no longer exists, as has been erroneously stated.

The grades remain intact and much of the surfacing material remains to form the base for renewed surface. For example, where the present road is too narrow it may form a center strip six feet to eight feet wide, to which may be added an eight-foot strip of concrete on each side to form a pavement twenty-two to twenty-four feet wide; and thus the cost of the finished construction will have been just about what an average eighteen-foot concrete road would cost under ordinary conditions. But, after all, whether work is done on a "pay-as-you-go" policy or with funds derived from a bond issue, the important factor is the degree of protection given the investment by maintenance.

Trunk-line systems should be completed as rapidly as possible, regardless of the method of payment

adopted or the sources from which the funds are derived. The deferred payment method is the logical resort when the funds necessary to carry on the requisite program are greater than may be obtained without undue burden from current tax collections.

The decision as to whether to "pay-as-you-go" or "ride-as-you-pay" is dependent only upon the relation of the necessary rate of expenditure to the rate at which it is expedient to attempt to raise the money by taxation, regardless of the kind of taxation. The cost of building and maintaining adequate systems of highways should be distributed in equitable relation to the benefits derived.

In the matter of voting for highway bonds, I might say that in my opinion it is not wise to devote all the money derived from taxation of the users of the road to pay interest charges and retire bonds. It must be remembered that money will be needed to maintain the roads, and the money derived through taxation of road users should be devoted to this purpose.

The reason for so using such funds are: First, because such money will be raised in direct proportion to the use of the roads and in proportion to the need for maintenance; second, because with the rate once fixed the return will be automatic, thereby assuring a continuing source of income for maintenance, which to be efficient must be continuous.

Wide variation in the present status of highway development in the several States prevents the adoption of a uniform policy for obtaining necessary funds for the annual highway budgets and for the expenditure of these funds. Generally speaking, the following principles may be enunciated:

(1) States where original construction programs are well under way can, in the main, finance expenditures for construction by bond issues devoted to deferring the cost of special projects.

(2) States in the initial stage of highway development should issue bonds to defer that portion of the annual charge for construction which would overburden either property or the road user.

(3) States where original construction is practically completed are concerned chiefly with maintenance and reconstruction and should depend on current funds, save in cases of emergency.

(4) The maintenance of interstate and State roads should be a charge against the road user.

(5) Roads serving a purely local purpose will generally require only light upkeep, and this should properly be a charge against the adjacent property which is the first and often the only beneficiary.

(6) No road should ever be improved to an extent in excess of its earning capacity. The return to the

public in the form of economic transportation is the sole measure of the worth of such improvement.

Protests against bond issues in California similar to those raised in New York were made when several of the trunk lines of that state were surfaced in a thin layer of concrete. The surfacing being thin, soon cracked, and in many places the roads were considered impassable.

The statement was made that the money expended had been wasted, and that the State was indebted for several millions of dollars in bonds for improvements that would have to be made over. These same roads, despite their condition, form an excellent base for resurfacing. At present costs the State will save money and have practically new roads. In addition the residents of the State have had the use of the roads for the past few years.

In 1921 the Bureau of Public Roads made a thorough survey of all highway expenditures. Of the total, \$1,036,587,772, there was expended by or under the State Highway Departments \$413,241,662, or 40 per cent; while under local authorities there was expended \$623,346,110, or 60 per cent. These expenditures were divided as shown in the table on page 15.

Remembering that on the basis of a billion-dollar

highway program the division is 40 per cent expended by the State and 60 per cent by the local authorities, it is interesting to note the division of money for all highway purposes, which is also shown in the table on page 15.

Burden on Property Not Heavy

Property taxes contribute direct 36 per cent. As closely as can be estimated, this is about 10 or 11 per cent of the total annual tax bill, local, State and Federal. Therefore, if there had been no highway program, State or local, property taxes would have only been reduced by, say, 11 per cent.

Crediting general property tax with both State taxes and funds from counties, the total is 18.6 per cent. The items of Federal Aid, forest funds, motor vehicle and gas tax total 46 per cent, and State bonds 28.3, i. e., 73.7 per cent outside direct property taxes. Information is not available which would make it possible to divide the bond retirement and interest between taxes and motor vehicle and gas taxes.

This is the real truth. The local roads are responsible for the increase in property taxes for highway purposes. This clamor about taxes is directed at the wrong cause.—The Highway Magazine.

EXPENDITURES MADE BY OR UNDER STATE HIGHWAY DEPARTMENT'S CONTROL

State and State aid construction.....	\$ 291,973,813	70.7 per cent
State and State aid maintenance.....	74,526,746	18. per cent
Engineering and administration.....	18,881,855	4.6 per cent
All other items (a).....	27,859,248	6.7 per cent
Total States.....	\$ 413,241,662	100.0 per cent

LOCAL EXPENDITURES

Construction all classes.....	\$ 334,991,560	53.7 per cent
Maintenance	174,066,423	27.9 per cent
Engineering and administration.....	17,149,498	2.8 per cent
All other items (a).....	97,136,629	15.6 per cent
Total Local.....	\$ 623,344,110	100. per cent

Grand Total Expenditures, 1921.....\$1,036,585,772

(a) Includes payments of interest and principal of highway bonds, purchase of gravel pits, quarries, etc.

TOTAL INCOME FROM VARIOUS SOURCES FOR ALL RURAL HIGHWAY PURPOSES

Bonds	\$ 438,109,273	38.1 per cent
Taxes	415,680,010	36.2 per cent
Motor Fees	118,942,706	10.3 per cent
Gas	3,683,460	.3 per cent
Federal aid and forest funds.....	79,333,226	6.9 per cent
All others	93,689,221	8.2 per cent
Grand Total	\$1,149,437,896	100.0 per cent

SOURCES OF INCOME FOR STATE HIGHWAY FUNDS, 1921

State Bonds and Special Assessments.....	\$ 114,825,637	28.3 per cent
State taxes direct.....	46,206,533	11.4 per cent
State appropriations from general fund.....	20,817,354	5.1 per cent
Funds from counties, etc.....	29,302,653	7.2 per cent
Motor vehicle fees.....	101,284,479	25.0 per cent
Gas tax	3,273,988	.8 per cent
Federal aid and forest funds.....	79,333,226	19.6 per cent
Miscellaneous sources	10,494,479	2.6 per cent

Elimination of Irresponsible Official Contractors

Steps of vital importance to the nation, looking to the elimination of the irresponsible contractor through the cooperative action of surety companies, public officials and contractors' organizations were taken Saturday when nationally prominent public works officials, officials of surety companies and representatives of the Associated General Contractors of America met with Secretary of Commerce Hoover.

The Associated General Contractors were responsible for the conference, that organization seeking to find some plan whereby the industry, with the cooperation of surety companies and public works officials, might devise some plan whereby the incompetent, irresponsible official contractor might be eliminated. Benefits from such an action, it was pointed out, would be derived through the elimination of losses to the surety company, through the elimination of hazards caused to the more responsible contractor and to the State governments.

Secretary Hoover, shortly after Gen. R. C. Marshall of the Associated General Contractors called the meeting to order, told those present that since he had become head of the Department of Commerce more than 500 similar conferences had been held in the department. He spoke of the growing tendency on the part of industries to ask the Government for assistance in solving their difficulties. Cooperation by organizations and by allied industries, he said, holds the only hope of keeping the United States an individualistic nation with the proper development of private initiative. He discussed business booms and depressions, showing how depression can be best prevented by overcoming the boom period with their accompanying wastefulness.

Methods of surety companies in their investigations before underwriting were described as lacking an adequate system in many cases, and several speakers urged the establishment of a credit rating system. It was revealed that there is a committee of surety companies which is working toward a closer understanding as to the process of classification and ratings under such classification, but that this work is not necessarily a credit rating system alone.

The action taken included a resolution favoring the elimination of the bid bond on contracts and the sureties' consent. Discussion of this brought out a sentiment in favor of the use of securities like liberty bonds.

Another action taken was adoption of a resolution that all contractors should furnish full and accurate information at the time of making application for surety bonds both as to their financial standing, experience and contingent liability from work on hand, and that none of this information should be more than six months old. Discussion of this showed an agreement that in the bonding of a contractor, experience should be the most important factor, and that the next should be his equipment, its amount and condition, while the third should be the financial condition.

An important contribution to the discussion was information given by state highway officials as to the contractors who bid for work in their various States.

A further action was to refer to a committee of three to be appointed by the chairman the improvement of methods of ascertaining credit information, the committee being charged with working out a better method than now obtains.

Another committee of three was ordered by the meeting to survey the present practice of surety companies in giving free service in engineering information and estimates. Discussion of this brought out a wide variance of opinion as to the value of present practices in this direction.

Further discussion was given to the practice of certain agents in splitting commissions with the contractor. This was denounced by representatives of the agents' organization as hampering the efficiency of a large body of men who are giving honest service to both their companies and their clients.

The meeting referred to committees problems of other forms of securities, uniform enforcement of the time penalty and the publication of the name of surety companies on each security bond.

It was decided that these committees would have had time to complete their studies to a point where a report might be made at a meeting to be held late in September.

Among those present representing surety companies were: E. A. St. John, president of the National Surety Company, and A. M. Cook, vice president of the same company; E. W. Bush, engineer of the Aetna Casualty and Surety Company; Richard Deming, vice president of the American Surety Company; R. F. Proctor, vice president of the Maryland Casualty Company; F. A. Bach, vice-president of Fidelity & Deposit Co., Adney Hall, vice president of the U. S. Fidelity and Guaranty Company, and H. G. Bageron, of the Continental Casualty Company. The contractors were represented by General Marshall; J. H. Cranford, president of the American Road Builders' Association; Lloyd Brown, president of the Lakewood Engineering Company; H. H. Weston, of Minneapolis, and H. H. Wilson and T. T. Waner. The state highway officials included Fred R. White, of Iowa, president of the American Association of State Highway Officials; W. R. Neel, chairman of the committee of that organization on cooperation with contractors; L. W. Bonlay, director of Highway and Public Works of Ohio; Frank R. Rogers, State Highway Commissioner of Michigan, and P. S. Wilson of the Bureau of Public Roads. The agents were represented by Arthur G. Howell, of the National Association of Casualty and Surety Agents; Holcombe G. Johnson, W. G. Wilson and C. R. Lawrenson, of Cleveland; Charles H. Burras, of Chicago, and J. K. Livingston, of Detroit.—The Highway Engineer and Contractor.

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RESOLUTIONS

At the twelfth annual convention of the United States Good Roads Association, held at Albuquerque, N. M., May 26-31, 1924, the following were among the resolutions unanimously adopted:

Twelfth. It is the desire of the United States Good Roads Association that official road name markers should be erected along the highways of the country, and that the cost of same should be regarded by highway departments and engineers as a legitimate part of the expense of the project.

Thirteenth. We recommend that every state highway department be regulated under an annual budget system, and that the greatest publicity be given to the same, so that the people in the respective states may know how State and Federal Aid money is being expended.

Fourteenth. We favor that the original construction of highways be financed on the "pay-as-you-go" plan or the proceeds of serial bonds, according to the stage of development of the highway systems now existing in the several states.

Fifteenth. We endorse the policy of the user of the roads to pay for the service through license and gasoline tax and recommend that all revenue from said source be applied to the maintenance and construction of highways.

Sixteenth. We heartily endorse the establishment of uniform motor laws and regulations, so that the user of the road may travel under uniform laws wherever he may travel.

Seventeenth. We endorse and recommend proper standard device protection of road users, and

that rules and regulations be adopted for the prevention of accident.

Eighteenth. We heartily favor the elimination of grade crossings and urge the hearty cooperation of the people and the railroads in securing the same.

Nineteenth. We will cooperate in every way possible in securing the service of skilled engineers in building highways and that every encouragement be given to educate and train engineers for this important work of road building.—South Carolina Highway Bulletin.

Murder!

"You say his wife wants to get rid of him? How do you know?"

"She told him she had read a decision which gives the pedestrian the right of way over automobiles, and she is insisting that he stand on his rights."—Houston Post-Dispatch.

The Pace That Kills

First Hunter—Killed anything?

Second Hunter—Not a thing! Wish I'd gone motoring now.—Bystander (London).

Smoothering the Way

A Houston road-sign painter suggests the following signs for railroad crossings:

"Come ahead. You're unimportant."

"Try our engines. They satisfy."

"Don't stop. Nobody will miss you."

"Take a chance. You can get hit by a locomotive only once."—Houston Post.

Right of Way Should Be Adequate to Provide for Future Road Widths

In the construction of roads and streets, the penalty of building inadequately means increased expense later, when changes have to be made to suit new conditions. A lamentable lack of foresight no doubt accounts for the tendency to build roads too narrow and, in many cases, to establish rights of way with insufficient breadth to accommodate the size highways which the probable future traffic will demand. This holds true particularly in fast-growing communities, which lie in a logical line of travel and form natural connecting links between large cities.

The Country May Learn from the City

Those charged with the planning and construction of important highways could well take a lesson from the predicament in which many large cities have found themselves when confronted with the necessity of providing wider thoroughfares along alley-like streets that are restricted with lanes of houses, crowded close to the sidewalks. It was a question whether to pay the cost of buying the property and tearing down the buildings or subject the people to

a heavy yearly loss from the delays occasioned by serious traffic congestion.

According to the engineers of the New York Board of Estimates, the traffic jams due to narrow streets in that city have cost the people more than \$300,000,000 annually in excess transportation costs caused by the slowing up of commercial vehicles on narrow streets. Investigations show that it would be far cheaper to pay the expense of acquiring the adjoining land and raze the structures, so the streets could be widened to make adequate provision for traffic. Yet what a vast saving might have been made if a liberal right of way had been laid out in the first place and provision made for the future widening of the streets before the property values attained fabulous heights.

Plan Now for Expansion Later

In the building of Federal Aid, State and County highways, the public will be saved much inconvenience and expense if the ultimate width of the rights of way are fixed at the time the road project is

(Continued on Page Twenty-Three)

Contracts Awarded by State Road Department from January 1, 1924, to October 15, 1924

Contractor	Proj. No.	County	Length Miles	Length Feet	Contract Cost + 10%	Type
Bryson Pav. & Const. Co.	598-A	Jefferson	9.45		\$44,253.00	Sand-clay
Edgar Chapman	564-A	Charlotte	10.885		92,390.03	G. & D.
L. M. Gray	572	Bradford	7.00		96,765.59	Rock
L. M. Gray	607	Bradford	5.10		70,679.12	Rock
L. M. Gray	594	Bradford	9.10		117,132.35	Rock
Ed. Pettus	563	Osceola		315	12,062.60	Bridges
J. J. Johnston	562-A	Highlands		375	11,556.60	Bridges
Higgins Const. Co.	36-A	St. Lucie		72	16,322.04	Conc. Bridge
Higgins Const. Co.	620	St. Lucie		45	3,672.90	Timber Bridge
Boone & Wester	564-B	Charlotte		105	11,004.40	Timber Bridge
C. T. Dawkins	37-D	Alachua		60	31,552.40	Conc. Bridge
Ocala Lime Rock	575	Putnam	5.46		39,688.00	Rock
Boone & Wester	564-B	Charlotte	9.54		73,276.28	Marl Surf.
Sou. Pav. & Const. Co.	44	Lake	10.529		395,611.38	Bit. Conc. Sur.
Barber-Fortin Co.	625	Citrus	10.86		195,328.35	Rock
Barber-Fortin Co.	626	Citrus	6.61		106,155.48	Rock
Sou. Pav. & Const. Co.	622	Lake	.215		8,217.80	Bit. Conc. Sur.
W. J. Connors	582	Okeechobee		3,122	177,941.61	Conc. & Steel
Weeks & Jackson	562-A	Highlands	5.37		29,110.62	Bartow Clay
Mickler & McLeod	629	Highlands	6.00		40,270.23	Bartow Clay
Myers Const. Co.	630	Highlands	11.00		50,356.46	Marl
Ed Pettus	534	Brevard		765	28,346.40	Timber Bridge
Ed Pettus	601	St. Johns		480	22,994.13	Timber Bridge
C. F. Lytle	636	St. Lucie	12.2		248,476.40	Rock Base
Waldeck & Deal	39-B	St. Lucie-Brevard	.25		45,567.05	Appro. Embk't.
Gillespie & North	545	Hernando		185	8,302.25	Ov'head Xing
W. P. McDonald Const. Co.	43	Marion	10.44		356,483.51	Sheet Asphalt
Ward-Latham Co.	43	Marion		120	18,903.50	Con. O'hd. Xg.
C. F. Lytle	26	Columbia	10.99		330,211.54	Plain Conc.
C. F. Lytle	608	Brevard	9.25		320,025.00	Plain Conc.
Total			150.25	5644	\$3,003,157.07	

Highway Construction a Business Problem

By ALVIN MACAULEY,

President, The Packard Motor Car Co., Member Executive Committee, The Lincoln Highway Association.

Highway construction in America is a business enterprise of the first magnitude. Emphasis should be laid on the word "business." It is public business to be sure, but it is big business with a capital "B" and should be considered from no other standpoint.

Sound business principles, which is only another way of saying fundamental economics, and those principles alone, should govern road construction policies and finance. Politics has nothing to do with highway construction, which is one of the fundamentally important business enterprises of this country today, rivaling, far surpassing, even, the vast enterprise of building America's railroads. Politics, fads and fancies, pet schemes and projects, theories—none of these things should in any way enter into highway building or financing plans.

I repeat, highway building is just plain business, and when handled like a business and administered honestly and in a business-like fashion by men whose business it is to properly plan and carry out highway programs, should be successful and pay dividends to

the owners of the business—the public—just as any other well-managed business enterprise does.

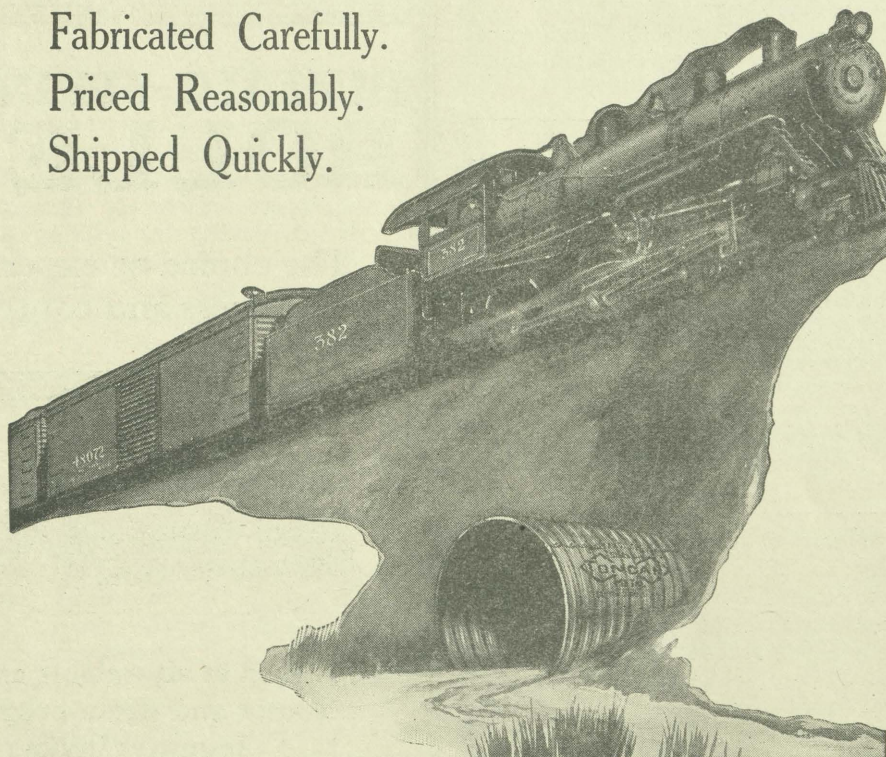
"Fundamental business economics" may sound complex, deep, and mysterious, but it is pretty largely a question of common sense. That is the way the highway programs of our State should be approached—solely from the standpoint of common sense. Business common sense points to the necessity of having all the facts in regard to a proposition thoroughly in hand before deciding to invest money in a business enterprise. In relation to the public business of road building, the facts are quite easily obtained. They obtrude themselves upon the notice of even the most casual observer.

Road Building Lags Behind Traffic

Even under the soundest business management of highway affairs, which includes proper maintenance of these roads in which the States have already invested the people's money, additional avenues of transportation cannot be constructed with sufficient



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rapidity to keep up with the obvious demands of the traffic.

In most States it becomes, then, merely a question of determining whether it is wise and proper to borrow money to provide adequate facilities more quickly—to anticipate the earnings to be derived from highway improvement in the State—and put the roads at work earning dividends for the public at an earlier date. If the earnings of the improved roads are greater than the interest on the money invested in them, the answer is certain and easily determined.

The fact is that nowhere in America has highway building yet caught up with the traffic volume. I am convinced that, no matter how efficient the program laid out by any American State for the next ten years and no matter how fast additional highways may be constructed, the demands of traffic will continue for at least ten years more to exceed any possible system which can be constructed within that time.—The Highway Engineer and Contractor.

MID-YEAR MOTOR VEHICLE REGISTRATION 15,552,077

By G. G. CLARK,
Highway Economist, U. S. Bureau of Public Roads

Returns from the forty-eight States and the District of Columbia show a total registration of 15,552,077 passenger cars, taxicabs, buses and motor trucks to July 1 of the registration year 1924. This is an increase of 2,549,650 over the registration figures of July 1, 1923, and an increase of 459,900 over the total registration for the calendar year 1923.

By geographic divisions the registration and corresponding increases and ratios of population to number of vehicles are as follows:

Geographic Divisions	Vehicles	Increases over July 1, 1923	Population 1920 census	Persons per vehicle
		<i>Per cent</i>		
New England	1,003,023	21	7,400,909	7.3
Middle Atlantic.....	2,754,541	19	22,261,144	8.1
East No. Central....	3,966,715	19	21,475,543	5.4
West No. Central..	2,374,938	11	12,544,249	5.3
South Atlantic.....	1,427,101	23	13,990,272	9.8
East So. Central....	652,084	32	8,893,307	13.6
West So. Central..	1,237,525	21	10,242,224	8.3
Mountain	524,855	18	3,336,101	6.4
Pacific	1,611,295	25	5,566,871	3.4
Total	15,552,077	20	105,710,620	6.6

The percentage of gain in registration during the twelve months, July 1, 1923, to July 1, 1924, was largest in the East South Central States. In this group in which the gain was 32 per cent, 13.6 persons were found for each vehicle registered. The smallest percentage of gain, 11 per cent, was found in the West North Central States, where one motor vehicle was registered for 5.3 persons.

A total of \$199,472,682.17 was collected from the owners and operators of these vehicles for licenses and permits. Of this amount \$163,011,584.29, or 82 per cent, was made available for highway expenditure by or under the supervision of the respective State Highway Departments; the remainder was used to cover the cost of registration, to finance debts in-

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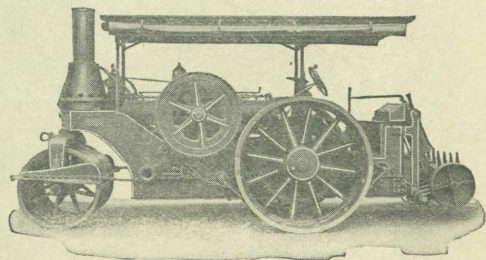
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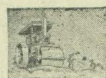
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curred for highway construction which are not payable by the highway departments, and in some States a portion was distributed to the counties.

No radical changes have been made during this period in the license fee, as the total receipts from this source follow the same percentage as the rate of increase in the number of vehicles registered.

The percentage of fees made available for highway work by and under the supervision of the respective State Highway Departments shows a slight increase over the percentage made available during previous periods.

Motorecycle registration totaling 126,850 shows a decrease of 14,671 from July 1, 1923. This decrease is in keeping with the general decrease of registration of these vehicles for several years.

Gasoline Taxes

The tax imposed on gasoline used as motor vehicle fuel has proved to be a source of revenue which is increasing at a rapid rate. The gross returns for July 1, 1924, when compared with similar figures for July 1, 1923, show an increase of 273 per cent.

On July 1, 1924, thirty-five States and the District of Columbia were collecting a tax on gasoline. During the registration year to July 1 the sum of \$32,430,410.37 was collected from this source, the returns ranging from 1 cent per gallon in eight States, 2 cents per gallon in fifteen States and the District of Columbia, 2½ cents per gallon in two States, 3 cents per gallon in nine States, and 4 cents per gallon in one State. Of the total collected, \$20,065,581.29, or about 62 per cent, was made available for expenditure by or under the supervision of the respective State Highway Departments.

The total amount collected from this source for the previous registration year to July 1, 1923, was \$8,669,174.03 collected in twenty-seven States. Forty-seven per cent of this amount was made available for road work by or under the supervision of the State Highway Departments. In several States parts of the proceeds of the gasoline tax are diverted to other purposes than State-supervised highway construction or maintenance and in one State the entire amount is diverted to other purposes.—Public Roads.

National Highways

The waterways, railways and highways comprise our national transportation system. Evolution has been natural and without transportation we could not have gained our present measure of national unity. While claims may be made that certain means of transportation have succeeded others, the fact remains that our commerce has increased greatly and one method of transportation has supplemented rather than exceeded the other. With the rapid development of the motor vehicle as a transportation unit, improved national highways became imperative. Progress in the building of surfaced roads has been rapid, and considerable mileage now exists, but the proportions of these no longer meet the needs of transportation. They are entirely inadequate, handling but two lines of traffic. Wider roads are essential, and unless that is taken into consideration by those responsible, money is being wasted.—Automobile Digest.

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—not an expense*

Road Building Far Behind the Automobile

Millions now recognize the automobile as a necessity. It is no longer a luxury for the few. Sixty per cent of its use is for business.

Because of this the modern paved highway has become an economic necessity.

Yet although the mileage of Concrete Roads and Streets has been steadily increasing, our highway system today lags far behind the automobile. The great majority of our highways are as out of date as the single-track, narrow gauge railway of fifty years ago.

Such a condition not only seriously handicaps the progress of the automobile as a comfortable, profitable means of transportation, but also holds back commercial, industrial and agricultural advancement in practically every section of the country. It is costing taxpayers millions of dollars annually.

Highway building should be continued and enlarged upon.

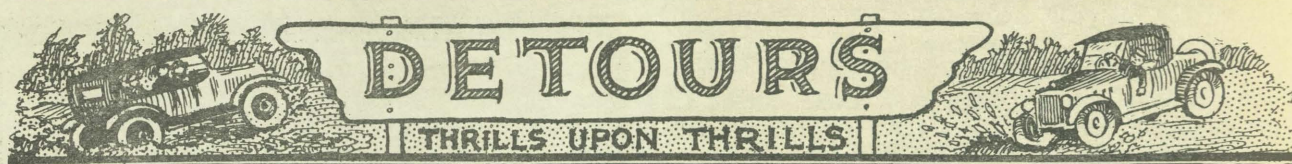
Your highway authorities are ready to carry on their share of this great public work. But they must have your support. Tell them you are ready to invest in more and wider Concrete Highways now.

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How Careless!

Every member of the family had been stricken with ptomaine poisoning.

"You have certainly been careless about your food in some way," said the doctor to the mother of the family. "Are you sure you haven't left any food standing in tin?"

"Well, we were right careless," the mother admitted. "We went on a picnic the other day and left the lunch in the flivver until dinner time."—Progressive Farmer.

The Salad's Bath

In the cook's absence the young mistress of the house undertook, with the help of an inexperienced waitress, to get the Sunday luncheon. The flurried maid, who had been struggling in the kitchen with a coffee machine which refused to work, confessed that she had forgotten to wash the lettuce.

"Well, never mind, Marie," said the considerate mistress. "Go on with the coffee and I'll do it. Where do you keep the soap?"—Harper's Magazine.

More Centennial Stuff

"Are you sure," asked the old woman, "that this century plant will bloom in a hundred years?"

"Positive, ma'am," answered the florist. "If it doesn't, bring it right back."—American Legion Weekly.

Perfectly Simple and Simply Perfect

"That's a fine motor. How did you get it?"

"Out of a prize competition."

"Did you win it?"

"No; I organized it."—The Passing Show.

Road hogs are motorists who put on speed every time you try to get in front of them.—Toronto Star.

Kansas City has a statute that reads: "When two cars approach each other at a crossing, they shall both come to a full stop, and neither shall start up until the other has gone."—S. C. Highway Bulletin.

Whatever happened to the old line about Washington, "First in war, first in peace and last in the American League?"—Detroit News.

Was This Our Editor?

A Florida man was fishing in Lake Crescent recently. He caught a big northern pike, the biggest he had ever landed in his long and busy life. He was elated. He was crazed with joy, and he telegraphed his wife: "I've got one; weighs seven pounds, and it is a beauty."

The following was the answer he got: "So have I; weighs ten pounds. Not a beauty—looks like you. Come home."—Idaho Yarn.

There is a wide margin between a living wage and a flivving wage.—Columbia Record.

She'd Tell Him

It was the dear old lady's first ride in a taxi, and she watched with growing alarm as the driver continually put his hand outside the car as a signal to the traffic following. At last she became exasperated.

"Young man," she said, "you look after that car of yours and watch where you're driving. I'll tell you when it starts raining."—The Tappet.

A Word From the Wise

D is for driver who lets his car run wild;

E is for excuses made when an auto hits a child;

A is for ambulance that gathers up the scraps;

T is for the speedy turn, where many meet mishaps;

H is for the little hearse, for those who meet the worst.

It all spells death for those who don't stick close to safety first. —The Exhaust.

Ab-so-tively!

"But who's fault is it," demanded a writer, "if a pedestrian gets run over the second time?" Speaking offhand, we should say the undertaker's.—Automobile Bulletin.

Popular Way to Get Chickens

Wife—Henry, dear, we must have a couple of chickens for dinner.

Hubby—All right; I'll take a spin in the car.—London Opinion.

In "detour" the accent is on the last syllable. So many people place it on the d.—Associated Editors.

WHAT'S THE USE?

"What's the use!" exclaims the Waseca (Minn.) Herald with mixed disgust and despair in chronicling the fact that in forty-eight hours after new markers had been set out at several street intersections in that city, the flags surmounting them had been flattened out by reckless motorists driving over the top of the markers, which are of the low rounded cement type.

What's the use? Not a darned bit of use, answers the Ellendale Eagle. The flivver is more important than the baby these days and is allowed to run around in the same unrestrained manner.

If one of these bird's grandmother was set up at a street intersection with a flag on installed on a curb holding a light Goddess of Liberty fashion, they'd run over her and never look back. Next time they came along they'd run over the corpse and never be aware that they had hit anything. They are blind, deaf and dumb to all interests but their own and they don't look after them very well.

"What's the use!" is right, the Eagle concludes.—The Highway Engineer and Contractor.

RIGHT OF WAY SHOULD BE ADEQUATE

(Continued from Page Eighteen)

planned. Such a policy will prove just as economical in the case of roads as it does in the case of steam railroads, street railways and public service corporations, all of which purchase land in advance of the time they will need it so as to be able to expand as their business increases.

Those States which adopt the far-sighted policy of planning roads of ample width for the immediate future and also fixing the ultimate limits of the right of way to allow for any further expansion later, are exhibiting the good judgment that the public needs as a protection against the huge waste of funds resulting from the rebuilding of roads which are constantly being outgrown by increasing traffic.

Pennsylvania Applies the Right Principle

Under the leadership of William H. Connell, engineering executive of the Pennsylvania Highway Department, the State has adopted a plan for fixing the ultimate width of the right of way on several important roads. With data developed from comprehensive traffic surveys and careful studies of trend of highway travel, estimates are made which fairly forecast the amount and character of probable future traffic. Many roads with light traffic now may become in five, ten or more years a heavy traffic highway that only a very much greater width would satisfy.

Under the new law the Highway Department has the authority to fix the right of way at a width not exceeding 120 feet. The widths which may be used range from fifty feet up, depending upon the future requirements of the district served by the highway.

Plan Followed Wherever Possible

When it becomes obvious that the traffic over a certain road has been increasing and will continue to do so, it is then the duty of the engineer to plan the highway system so that it will take care of future as well as present demands without the expense of acquiring new land and tearing down buildings.

There are some instances where it is not feasible to arrange for the desirable width of highways, because the property alongside has been improved to such an extent that the cost of the needed changes and acquisitions would make it prohibitive at the time.

The width of the Lincoln Highway in Pennsylvania, running from Philadelphia to Paoli, has been fixed at eighty feet. This is an illustration of waiting too long before deciding upon the ultimate width. As one of the main arteries through the State, it should be 100 feet wide. But owing to the fact that the adjoining property has become very extensively built up, an increase in the width of the right of way would cause considerable damage to property, necessitating a greater outlay than seems justified.

The action of the State in putting the law into operation will obviate future mistakes of this kind, and it offers a good precedent in highway planning for engineers to follow elsewhere.—Road Economics.

Motor vehicles and automotive products paid approximately \$157,000,000 in special Federal excise taxes in 1923. The total of all taxes, including local, paid by the manufacturers and operators totaled \$475,000,000.





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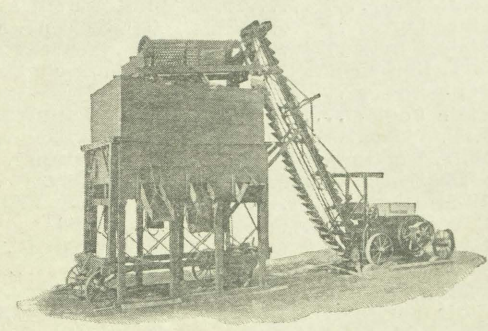
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This feature is alone enough to account for increased production, and lessened operating costs and wear and tear; but there are others almost equally important.

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 400 North Michigan Ave. **CHICAGO**

Status of Road Construction

THROUGH AUGUST 31ST, 1924.

Project No.	Contractor.	Road No.	County	Total Length Miles	Clearing Miles	Grading Miles	Base Miles	Surface Miles	Type	Per Cent Complete
34	Union Indemnity Co.....	7	Escambia	10.00	10.00	10.00	....	9.90	C.	99.00
36-A	H. L. Clark & Sons.....	4	St. Lucie	7.76	7.76	7.68	7.68	6.98	B.M.	95.00
36-B	C. F. Lytle.....	4	St. Lucie	7.12	7.12	6.70	....	7.12	C.	85.00
37-A	F. W. Long & Co.....	2	Alachua .....	.70	.70	.70	.70	0.00	S.A.	58.00
37-C	F. W. Long & Co.....	2	Alachua	3.26	3.26	3.26	3.26	0.00	S.A.	62.00
37-D	Fla. Drainage & Const. Co..	2	Alachua	2.14	0.00	.59	....	....	G.	28.00
37-E	Wm. P. McDonald Const. Co.	2	Alachua	7.96	7.64	7.88	7.92	7.56	S.A.	97.20
40-A	C. F. Lytle.....	4	Brevard	16.17	13.74	4.85	0.00	....	R.	13.60
40-D	J. Y. Wilson.....	4	Brevard	6.72	5.71	2.01	0.00	....	R.	10.00
40-E	Langston Const. Co.....	4	Brevard	13.60	10.20	7.48	4.08	....	R.	35.00
44	Southern Paving Const. Co.	2	Lake	10.53	10.00	2.21	0.00	0.00	B.M.	5.60
501	State Forces	6	Calhoun	41.19	41.19	41.19	....	41.19	S.C.	100.00
503	State Forces	2	Charlotte	20.18	20.18	20.18	....	19.77	S.C.	98.00
505	State Forces	2	Columbia	11.80	11.80	11.80	11.80	9.79	R. (S.T.)	97.00
519	State Forces	5	Manatee	3.50	3.50	3.50	3.50	3.50	B.M.	100.00
521	Morgan-Hill Paving Co.....	4	Nassau	12.41	9.92	9.05	.99	....	R.	32.90
523	M. J. Cole (Co. funds)....	8	Okeechobee	8.75	8.75	8.00	8.75	0.00	R. (S.T.)	92.00
534-A	J. D. Donahoo & Sons.....	24	Brevard	2.65	2.65	1.72	0.00	....	R.	66.00
534-B	Noll & Noll.....	24	Brevard	11.85	11.85	11.85	7.23	....	R.	61.00
539	County Forces	5	Marion	11.30	11.30	11.30	11.30	1.69	R. (S.T.)	70.00
544-A	F. S. Whitney.....	5	Pasco	8.75	8.75	8.75	8.75	....	R.	100.00
544-B	The Barber-Fortin Co.....	5	Pasco	11.33	11.10	9.63	5.16	....	R.	64.10
545	Broadbent & Groeting.....	5	Hernando	9.51	9.51	9.51	8.56	3.80	S.A.	71.20
553	State Forces	2	Marion	9.15	9.15	9.15	9.15	7.50	B.M.	90.00
560	State Forces	6	Calhoun	20.00	18.00	18.00	....	16.00	S.C.	89.50
562-A	Southern Surety Co.....	8	Highlands	5.37	5.37	5.37	....	2.09	S.C.	39.00
564-A	Edgar Chapman (Co. funds)	5	Charlotte	10.88	2.51	3.81	....	....	G.	25.00
564-B	Boone & Wester.....	5	Charlotte	9.86	9.86	9.86	....	1.36	S.C.	68.00
565	State Forces	1	Madison	15.66	15.66	15.66	....	7.83	S.C.	93.00
567	State Forces	1	Walton	21.35	2.13	1.07	....	0.00	S.C.	4.60
571	Hunter & Gladwell.....	1	Madison	14.73	11.04	9.42	....	3.53	S.C.	62.00
572	L. M. Gray.....	13	Bradford	7.30	7.30	7.30	7.30	....	R.	100.00
574	State Forces	9	Madison	11.07	11.07	10.29	....	0.00	S.C.	89.00
575	State Forces	3	Putnam	5.46	5.18	5.02	5.02	.87	R. (S.T.)	80.92
576	S. T. Buchanan & Sons.....	5	Sarasota	5.68	5.68	4.54	....	....	G.	65.00
579	State Forces	1	Holmes	8.62	8.62	7.84	....	7.80	S.C.	93.20
586	State Forces	1	Jackson-Wash'ton	17.37	5.56	5.03	....	3.47	S.C.	50.70
597	J. Y. Wilson.....	4	Volusia	16.29	10.58	4.88	0.00	....	R.	18.00
598-A	W. J. Bryson Paving Co....	1	Jefferson	9.45	8.40	7.61	....	0.00	S.C.	78.00
598-B	State Forces	1	Jefferson	7.80	7.17	3.43	....	.15	S.C.	30.00
599	M. M. Boyd.....	2	DeSoto-Charlotte.	7.40	7.40	7.17	....	2.74	S.C.	76.00
604	C. F. Lytle.....	4	Volusia	7.72	2.70	.61	0.00	....	R.	12.00
607	L. M. Gray.....	13	Bradford	5.10	5.10	5.10	1.56	....	R.	26.00
607-B	State Forces	13	Clay	5.68	2.84	1.02	0.00	....	R.	5.20
608	State Forces	4	Brevard	8.77	7.01	3.51	0.00	0.00	R. (S.T.)	11.30
612	State Forces	1	Leon	17.58	6.15	.88	....	0.00	S.C.	4.22
625	The Barber-Fortin Co.....	5	Citrus	10.86	3.80	1.08	0.00	....	R.	3.50
626	The Barber-Fortin Co.....	5	Citrus	6.61	2.97	2.04	0.00	....	R.	9.51
634	State Forces	1	Jackson	11.07	1.66	1.15	....	0.00	S.C.	5.69

TOTAL MILES COMPLETE

	Clearing Miles.	Grading Miles.	Base Miles	Surface Miles.
Complete July 31, 1924.....	1088.69	1025.94	368.62	621.36
Complete August 31, 1924.....	26.38	25.07	11.73	35.70
Total August 31, 1924.....	1115.07	1051.01	380.35	657.06

	Concrete.	Brick.	S. Asphalt	Bit. Macadam	S. T. and Rock	Sand Clay	G. & D.	Total
Complete July 31, 1924.....	83.37	25.15	73.37	137.17	131.26	339.65	202.87	992.62
Complete August 31, 1924.....	2.39	0.00	3.42	3.53	12.65	13.09	1.42	36.50
Total August 31, 1924.....	85.76	25.15	76.79	140.70	143.91	342.74	204.29	1029.12

Note—The above tabulation shows only those projects that are actually under construction at the present time and does not show projects that have been previously completed. However, the table, "Total miles completed," at the foot including all projects that have been completed prior to August 31 1924, and the amount completed in August also. The abbreviations used are as follows:

C.—Concrete. S.A.—Sheet asphalt. B.M.—Bituminous macadam. R.—Rock base. S.C.—Sand clay. G. & D.—Graded and drained. S.T.—Surfaced treated.

INSTALLED
1912

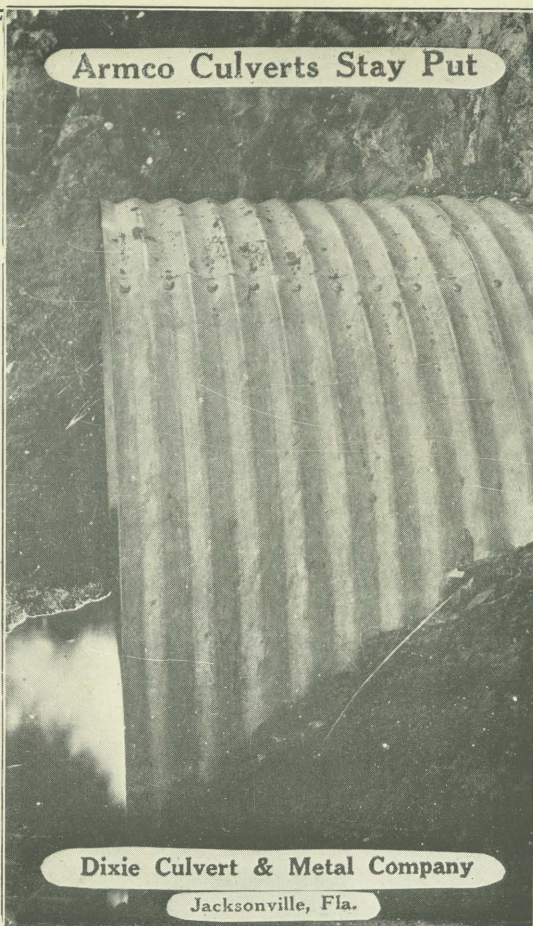
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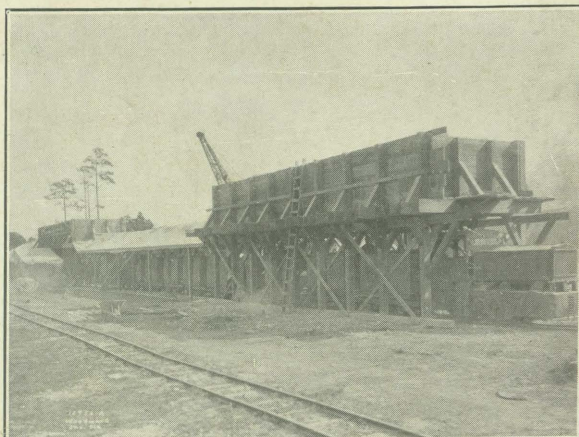
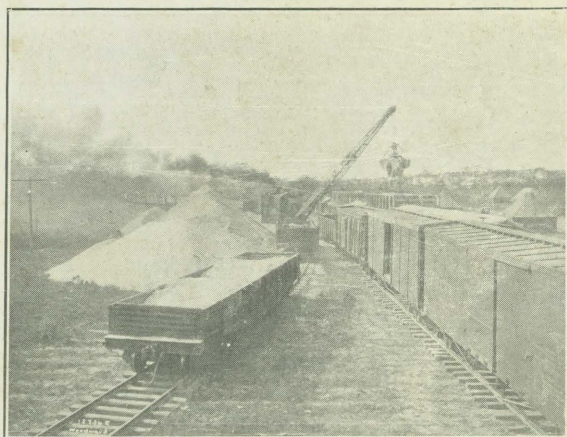
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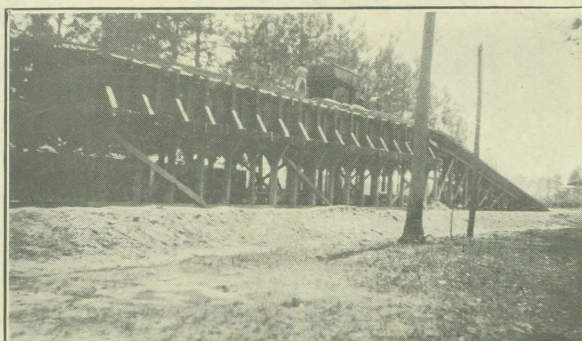
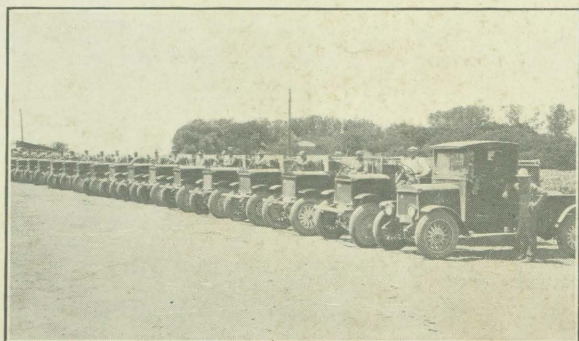
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